



INSTRUCTION BULLETIN

No. 340519
Machine: 8410
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NOTE: DO NOT DISCARD the Parts List from the Instruction Bulletin. Place the Parts List in the appropriate place in your machine manual for future reference. Retaining the Parts List will make it easier to reorder individual parts and will save you the cost of ordering an entire kit.

NOTE: Numbers in parenthesis () are reference numbers for parts listed in Bill of Materials.

Installation instructions for **kit number 374160**

DESCRIPTION:

This kit contains the parts needed to install a new LPG Vaporizer/Lockoff kit on the model 8410 sweeper/scrubber.

Please follow step-by-step instructions.

SPECIAL TOOLS / CONSIDERATIONS: NONE

(Estimated time to complete: 4 hours)

PREPARATION:

(Refer to FIG. 1 thru 10)

1. Park the machine in a designated safe area.

FOR SAFETY: When servicing machine, keep flames and sparks away from fuel system service area. Keep area well ventilated.

2. Close the tank service valve on the LPG tank.
3. Start the machine, and allow the engine to operate until it stops from lack of fuel.
4. Set the machine parking brake, and turn the machine off.

FOR SAFETY: Before leaving or servicing machine, stop on level surface and set parking brake. Then turn off machine and remove key.

5. Open the rear right hand LPG door. Put on gloves and remove the quick-disconnect tank coupling.
6. Unlatch the tank hold-down clamp, and remove the LPG fuel tank from the machine and store the tank in a designated, safe area. (Refer to FIG. 1)
7. Disconnect battery cables from machine.



WARNING: Always disconnect battery cables from machine before working on electrical components.

8. Drain the engine coolant with the coolant drain on the bottom side of the radiator.

OLD VAPORIZER AND LOCKOFF GROUP REMOVAL:

(Refer to FIG. 1, 2, 3 and 9)

1. Open the left hand engine side door and top cover.
2. Open the rear LPG door
3. Disconnect and remove the LPG hose and 90° fitting (11442-1) from the side of the vaporizer. Follow the hose over to the fuel lockoff filter. Disconnect the other end of the hose and 45° fitting from the fuel lockoff filter. Discard the LPG hose. Set the 90° fitting (11442-1) aside. (Refer to FIG. 1 and 9)

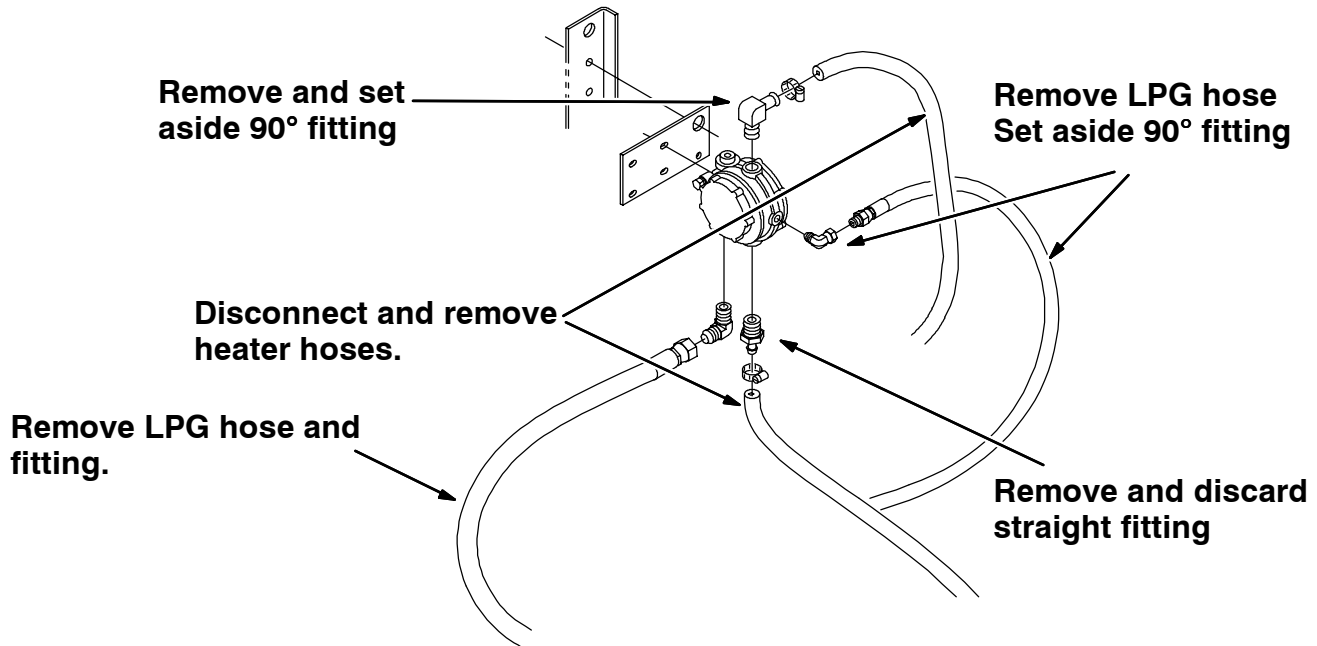


FIG. 1 - RECONFIGURATION, OLD LPG VAPORIZER

4. Disconnect the bottom LPG hose from the LPG vaporizer. Disconnect and remove the 90° fitting from the bottom of the vaporizer. Disconnect the other end of the LPG hose from the carburetor. Remove and discard the LPG hose and fitting. (Refer to FIG. 1 and 9)
5. Disconnect and remove the two heater hoses from the top and the bottom of the vaporizer. Remove the 90° fitting and hose clamps from the top of the vaporizer and set it aside. Remove and discard the straight fitting for the heater hose on the bottom of the vaporizer. (Refer to FIG. 1 and 9)
6. Disconnect the heater hoses from the engine at the thermostat housing and at the coolant air bleed tube. Discard the heater hoses. Set the hose clamps aside. (Refer to FIG. 9)
7. Disconnect and discard the vaporizer and mounting plate from the machine. (Refer to FIG. 2)

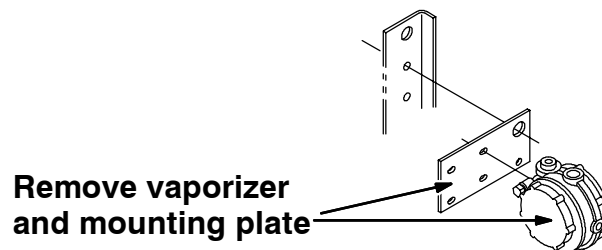


FIG. 2 - REMOVAL, VAPORIZER AND MOUNTING PLATE

8. Disconnect and remove the vacuum hose from the fuel lockoff filter. Disconnect the other end of the vacuum hose from the carburetor and discard. (Refer to FIG. 3 and 9)
9. Disconnect and remove LPG hose 22308-6 connected to the T-fitting at the T-lockoff and T-fitting. (Refer to FIG. 3 and 9)
10. Locate the straight fitting and LPG pressure switch. Disconnect the harness from the pressure switch, and mark the harness for reinstallation. Disconnect, remove and set aside the straight hydraulic fitting and LPG pressure switch from the T-fitting. (Refer to FIG. 3 and 9)
11. Disconnect, remove and discard the T-fitting from the 90° fitting. (Refer to FIG. 3 and 9)
12. Remove the 90° fitting from the fuel lockoff and set aside with the straight fitting (17414) and LPG pressure switch (23156). (Refer to FIG. 3 and 9)

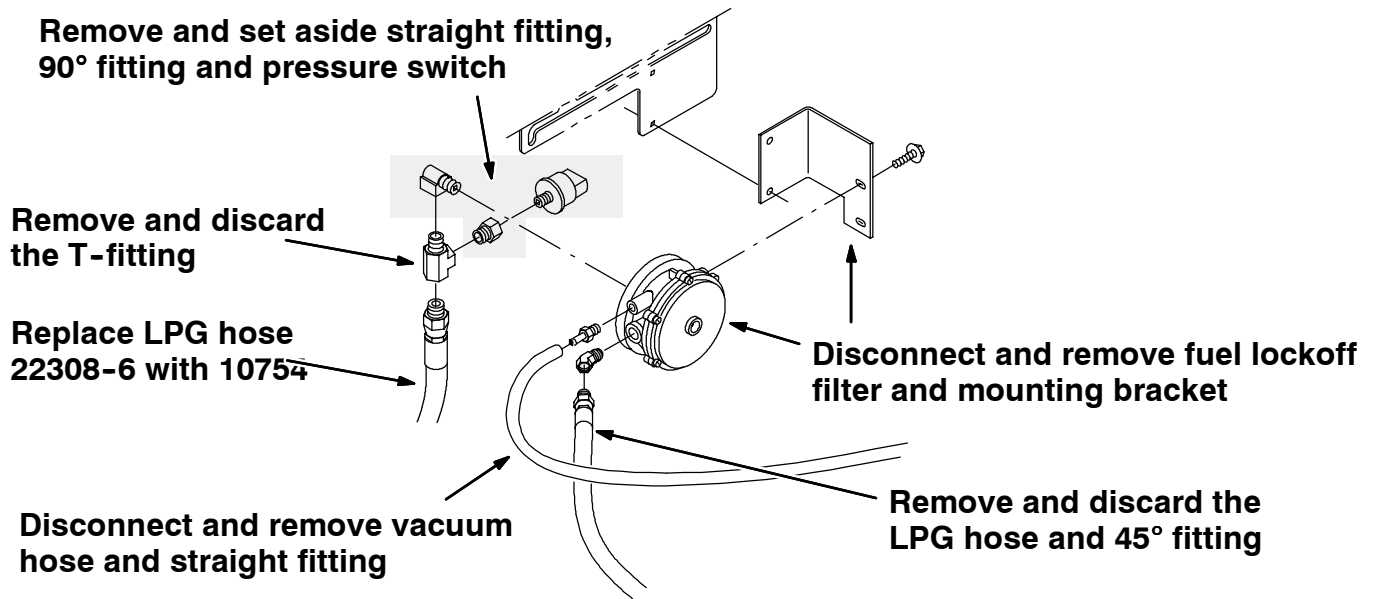


FIG. 3 - REMOVAL, OLD LPG FUEL LOCKOFF FILTER

13. Remove and discard the fuel lockoff filter and mounting bracket. (Refer to FIG. 3 and 9)

NEW VAPORIZER/FUEL LOCKOFF GROUP INSTALLATION:

(Refer to FIG. 4 thru 10)

1. Locate the prop rod support panel on the inside of the rear LPG tank storage area.
(Refer to FIG. 4 and 10)
2. Using the new LPG regulator/lockoff mounting bracket as a template. Mark and drill two new 9/32 (0.280) mounting holes with the dimensions shown in figure 4. (Refer to FIG. 4)

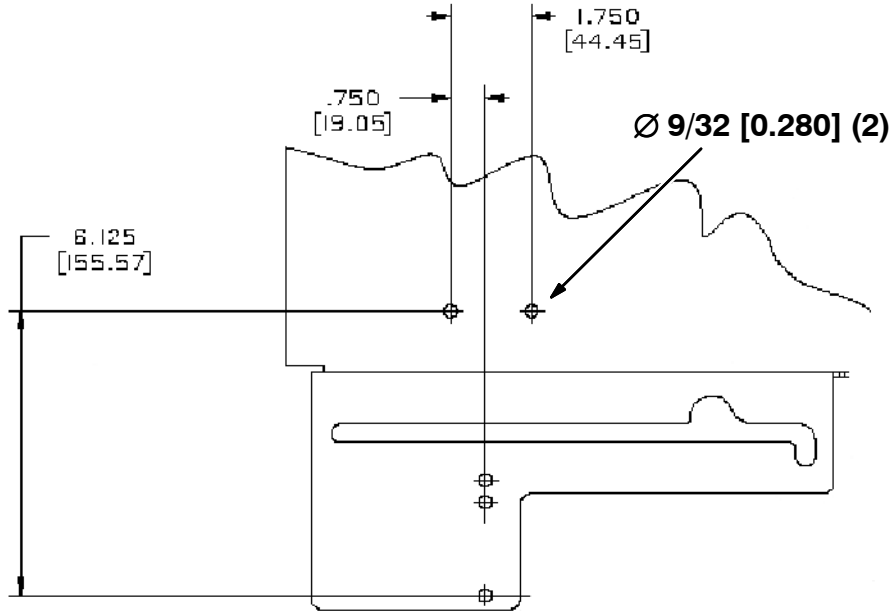


FIG. 4 - REWORK, SEAT SUPPORT PANEL

3. Mount the pressure switch (23156) to the regulator/lockoff (5) with 45° fitting (16) and straight fitting (17414). (Refer to FIG. 5 and 10)
4. Mount the pipe plug (9) in the regulator/lockoff (5). (Refer to FIG. 5 and 10)

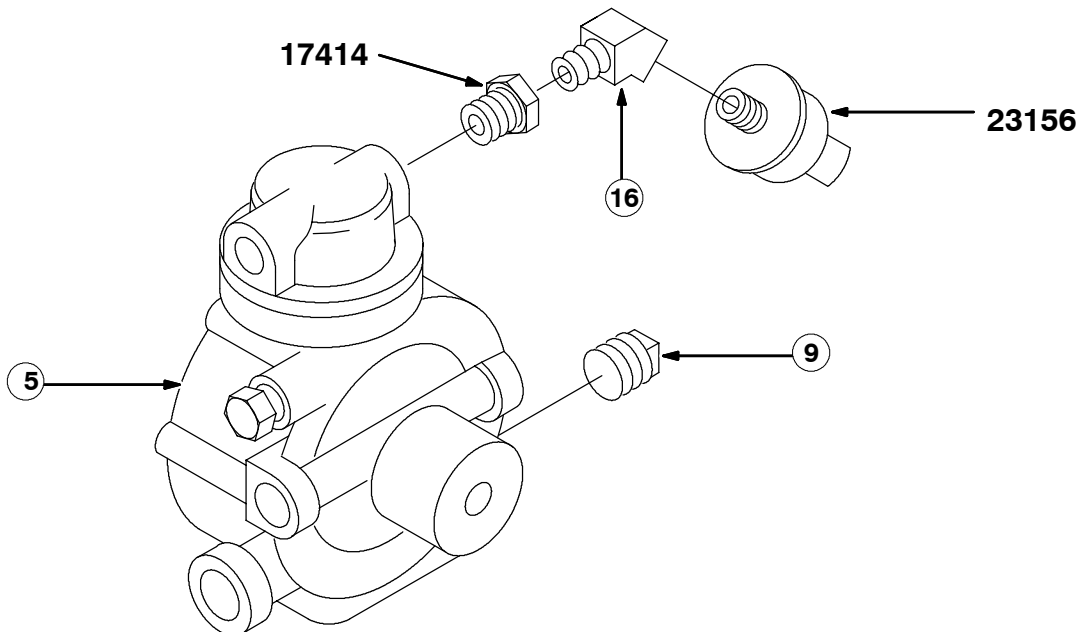


FIG. 5 - INSTALLATION, PRESSURE SWITCH

5. Install set aside elbow and new elbow (10) to vaporizer/lockoff. (Refer to FIG. 7 and 10)
6. Install the 90° fitting (11) for LPG hose (12) in the vaporizer/lockoff assembly.
(Refer to FIG. 6 and 10)
7. Install the 90° fitting (11442-1) for the LPG hose(15) from LPG tank. (Refer to FIG. 6 and 10)
8. Mount the new vaporizer/lockoff assembly (5) to the vaporizer/lockoff mounting bracket (1) with two hex screws (6), lock washers (7) and flat washers (8). (Refer to FIG. 6 and 10)

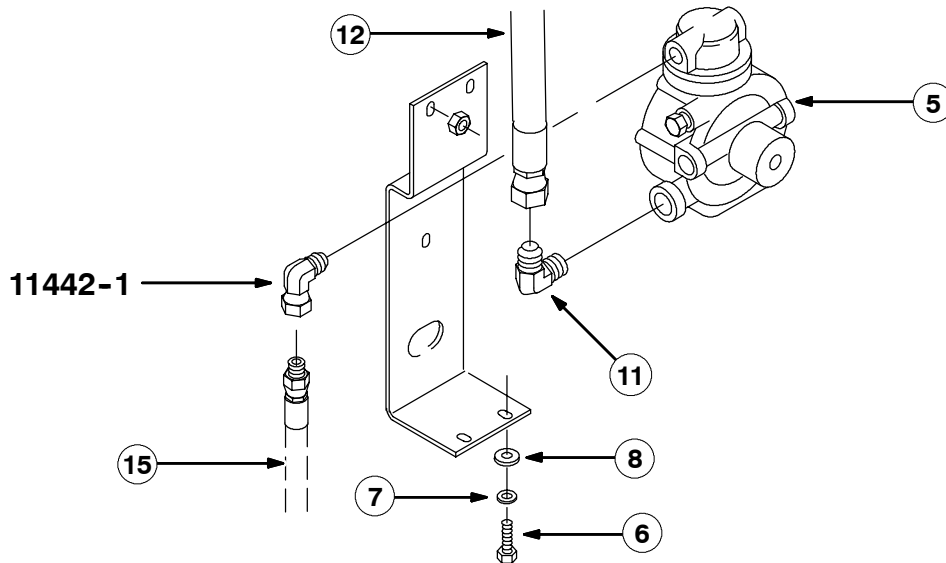


FIG. 6 - INSTALLATION, 90° FITTINGS, VAPORIZER/LOCKOFF

9. Cut the length of heater hose into two 48 in. (1220 mm) pieces (13).
10. Connect one end of one heater hose (13) to the side of the vaporizer/lockoff (5) under the pressure switch (23156) with a 90° fitting (10). The other end of the hose will connect to the thermostat housing on the front right hand side of the engine. (Refer to FIG. 7 and 10)
11. Connect one end of the other heater hose (13) to the opposite side of the vaporizer/lockoff (5) with a 90° fitting (10). The other end of the hose will connect to the air bleeder valve on the left hand side of the engine. (Refer to FIG. 7 and 10)

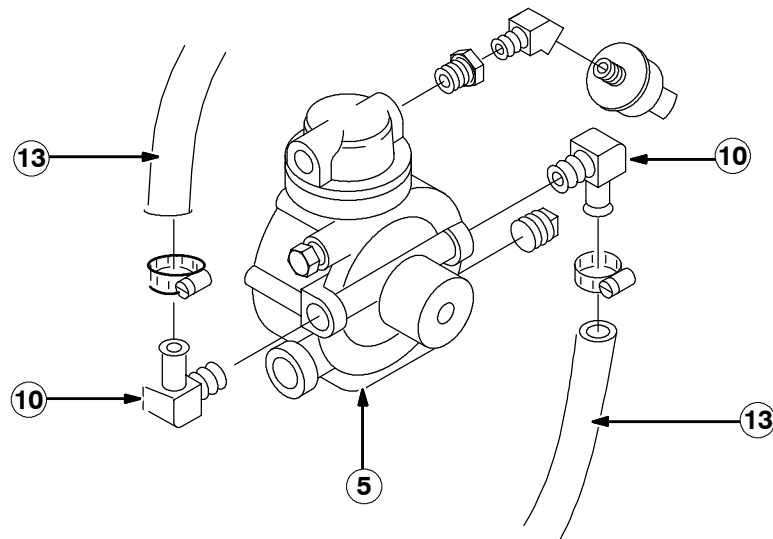


FIG. 7 - INSTALLATION, HEATER HOSE

12. Connect the 90° end of the new LPG hose (12) to the carburetor. Route the straight end of the hose over the engine, down to the new vaporizer/lockoff mounting location.
(Refer to FIG. 7 and 10)
13. Install the vacuum cap (14) over the old vacuum hose mounting location.
(Refer to FIG. 7 and 10)

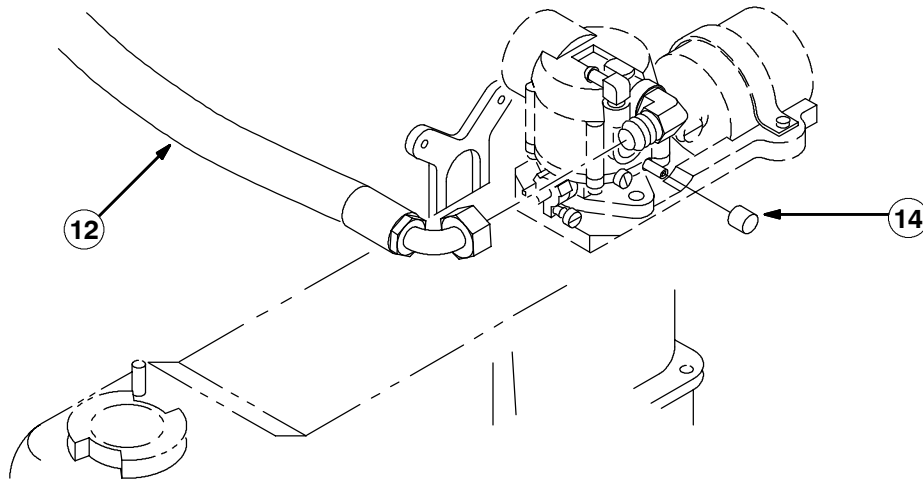


FIG. 8 - RECONFIGURATION, CARBURETOR

14. Replace LPG hose 22308-6 with new LPG hose (15). Connect the new LPG hose (15) to the 90° fitting (11442-1). Route the new LPG hose from the 90° fitting, to the new vaporizer/lockoff mounting location. (Refer to FIG. 8, 9 and 10)
15. Place the new vaporizer/lockoff assembly (5) in the new mounting location. Do not install at this point. (Refer to FIG. 10)
16. Route the heater hose (13) connected to the same side of the vaporizer/lockoff (5) as the pressure switch, back to the front right hand side of the engine. Connect the heater hose to the thermostat housing with a hose clamp. (Refer to FIG. 10)
17. Route the heater hose (13) on the opposite side of the vaporizer/lockoff (5), around to the left hand side of the engine. Connect the heater hose to the coolant air bleeder tube with a hose clamp. (Refer to FIG. 10)
18. Connect the open end of LPG hose (15), from the LPG tank T-fitting, to the 90° fitting (11442-1) in the top of the vaporizer/lockoff (5). (Refer to FIG. 8)
19. Connect the open end of LPG hose (12), from the carburetor, to the 90° fitting (12) on the side of the vaporizer/lockoff (5). (Refer to FIG. 8)
20. Connect the set aside marked harness back to the pressure switch.
21. Locate the second harness connection bound with plastic tie. Untie the second harness connection, and connect to the vaporizer/lockoff harness.
22. Mount the new vaporizer/lockoff mounting bracket (1) to the prop rod support panel with two hex screws (2), washers (3) and two flange nuts (4). (Refer to FIG. 5)
23. Recheck all LPG hose and heater hose connections.
24. Replace LPG tank in machine. Reconnect LPG hose to the tank.
25. Open LPG tank service valve. Check all LPG hose connections for leaks.

26. Close the radiator bleeder valve. Replace the engine coolant.
27. Reconnect battery cables to the machine.
28. Start the machine engine. Open the coolant air bleeder valve to allow any air to escape from the system. Close the valve once all of the air is bled from the system
29. Turn the machine power on and check machine for proper operation.

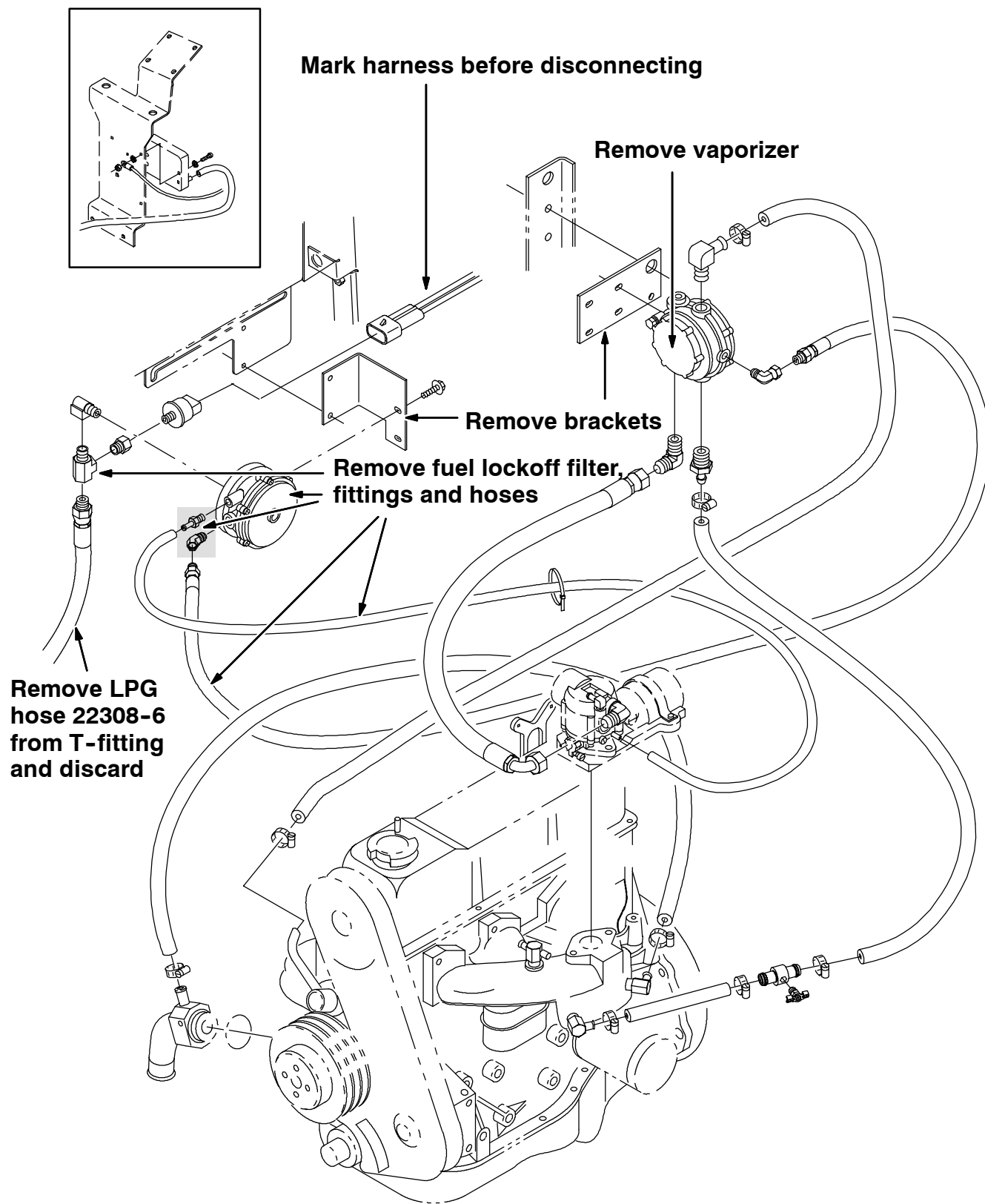


FIG. 9 - RECONFIGURATION, OLD LPG VAPORIZER

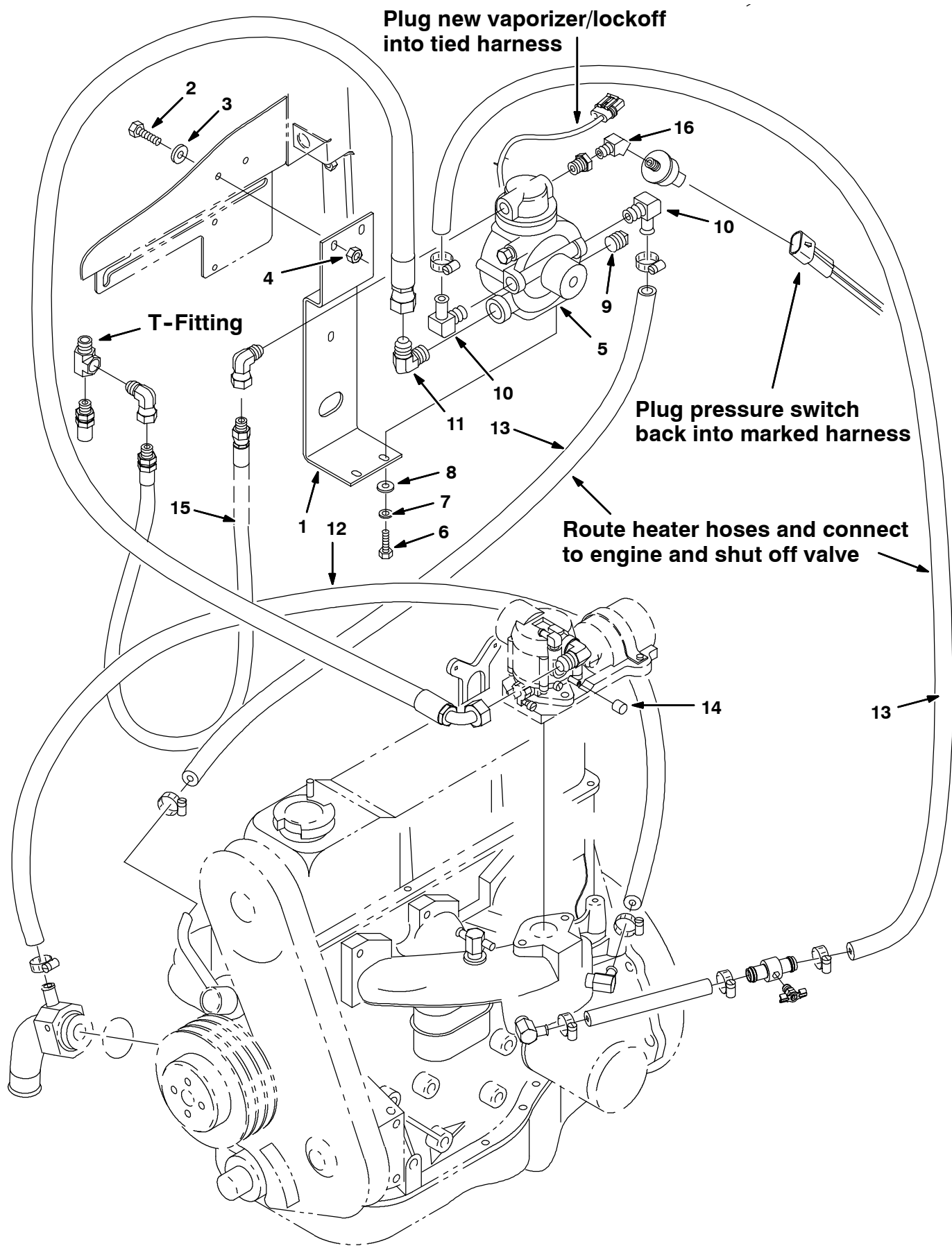


FIG. 10 - INSTALLATION, LPG VAPORIZER/LOCKOFF KIT 374160

BILL OF MATERIALS FOR 374160

Ref.	TENNANT Part No.	Description	Qty.
1	374153	Bracket, mtg, regulator/lockoff LPG	1
2	06943	Screw, hex, M06 X 1.0 X 20, 8.8	4
3	32483	Washer, flt, 0.25 Sae	4
4	07790	Nut, hex, flng, M06 X 1.0	4
5	383170	Controller, LPG, 12VDC	1
6	06942	Screw, hex, M06 X 1.0 X 16, 8.8	2
7	32982	Washer, lock, int, 0.25	2
8	32483	Washer, flt, 0.25 SAE	2
9	17521	Fitting, pipe, plug, PM08 Sq head	1
10	51839	Fitting, brs, E90, PM06/EM10	2
11	46611	Fitting, hyd, E90, PM08/JM10	1
12	374155	Hose, LPG, Med12, JF14 Str/JF14E90	1
13	374157	Hose, heater, 0.62ID 48.0L	2
14	578723	Cap, vinyl, 0.21ID 0.5L red	1
15	10754	Hose, LPG, Med05, PMO4Str/SMO4Str, 24.0L	1
16	24976	Ftg, 45° brass,	1

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